

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Dan G. Priem

Examiner: Julio C. Gonzalez

Serial No.: 10/657,758

Group Art Unit: 2834

Filed: September 08, 2003

Docket: 1094.204US1

For: AUTOMATIC GENERATOR STARTING PROTECTION

APPEAL BRIEF UNDER 37 CFR § 41.37

Mail Stop Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Appeal Brief is presented in support of the Notice of Appeal to the Board of Patent Appeals and Interferences, filed on January 31, 2006, from the Final Rejection of claims 1-35 of the above-identified application, as set forth in the Final Office Action mailed on November 8, 2005.

The Commissioner of Patents and Trademarks is hereby authorized to charge Deposit Account No. 19-0743 in the amount of 500.00 which represents the requisite fee set forth in 37 C.F.R. § 41.2(b)(2). The Appellants respectfully request consideration and reversal of the Examiner's rejections of pending claims.

1. REAL PARTY IN INTEREST

The real party in interest of the above-captioned patent application is the Assignee, Onan Corporation, d/b/a Cummins Power Generation.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in an appeal of this matter.

3. STATUS OF THE CLAIMS

Claims 1-35 are currently pending in this patent application. A Final Office Action was mailed on November 8, 2005. No claims have been allowed. All of claims 1-35 stand finally rejected, and their rejection is the subject of the appeal of this matter.

4. STATUS OF AMENDMENTS

Dependent claims 7-15, 21, 23-24, 26-28, and 32 were amended after final rejection in Applicant's Amendment And Response Under 37 C.F.R. § 1.116 mailed on January 9, 2006 solely to put these claims in better condition for appeal. Such claims were amended to link various detections to inhibiting automatically starting the fuel-powered AC generator—which is also present in the independent claims. These amendments were NOT entered by the Examiner.

Appellant respectfully submits that support for these claim amendments is found in their respective independent claims 1 and 20, which similarly recite inhibiting automatically starting the fuel-powered AC generator, and throughout the present patent specification. Appellant also respectfully submits that these amendments would not have required further searching, because these amendments are entirely consistent with subject matter already searched with respect to their respective independent claims 1 and 20.

In refusing the enter the claim amendments, the Advisory Action asserted that such amendments raised new issues that would require further consideration and/or search, noting that “inhibiting an automated starting of the generator in relation to a smoke hazard requires further consideration.” (Advisory Action at Continuation of 3.)

Applicant respectfully disagrees. For example, independent claim 1—which has not been amended in any way—recites “a sensor circuit, to detect a fault condition indicative of an exhaust hazard,” as well as “an actuator circuit, to automatically start a fuel-powered AC generator when a load circuit needs AC electrical power from the AC generator.” Independent claim 1 further recites “a logic circuit, coupled to the sensor and actuator circuits, to disable the actuator circuit when the fault condition indicates that the risk of the exhaust hazard is present.” Even without the unentered amendment, claim 7, which depends from independent claim 1, merely adds that the sensor circuit includes a vehicle transmission position detector circuit. Independent claim 1 provides the context for the vehicle transmission position detector circuit—it is part of the sensor circuit used to inhibit automated generator starting in response to an exhaust hazard.” The

amendment to claim 7 merely reiterates this context that is already present in claim 1, but which was apparently being ignored by the Examiner. Similar considerations apply to all of the other amendments to the other dependent claims—Appellant respectfully submits that such amendments do not add any new matter beyond the subject matter of the independent claims. Such amendments were merely added to provide context that was already present in the independent claims, but which was being ignored by the Examiner. Therefore, Appellant respectfully submits that such amendments should have been entered as they merely put such dependent claims in better form for appeal, and Appellant respectfully submits that all of Appellant's arguments for the patentability of such dependent claims holds true regardless of whether the unentered amendments are taken into consideration by the Board.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Independent apparatus claim 1 relates to an actuator circuit 106 to automatically start a fuel-powered AC generator 104 when a load circuit 118 needs AC electrical power from the AC generator. (See, e.g., Application at page 3, lines 1-27.) A sensor circuit detects a fault condition indicative of a risk of an exhaust hazard. (See id. at page 3, line 28 – page 4, line 12.) A logic circuit 130 disables the actuator circuit 106 when the fault condition indicates that the risk of the exhaust hazard is present. (See *id.*) This effectively prevents the generator from automatically being started when the risk of the exhaust hazard is present. (See Application at FIG. 2.)

Dependent claim 4 incorporates the language of independent claim 1 and is directed toward a diesel generator. (See Application at page 4, lines 9-12.)

Dependent claim 5 incorporates the language of independent claim 1 and is directed toward a load being an AC-powered electrical appliance of a vehicle 102. (See, e.g., *id.* at page 1, lines 16-20.)

Dependent claim 6 incorporates the language of independent claim 1 and is directed toward a load being an AC-powered electrical appliance of a recreational vehicle 102. (See, e.g., *id.* at page 3, line 3.)

Dependent claim 7 incorporates the language of independent claim 1 and is directed toward a vehicle transmission position detector to inhibit the automatically starting the fuel-powered AC generator. (See, e.g., *id.* at page 4, lines 25-30.)

Dependent claim 8 incorporates the language of independent claim 1 and is directed toward a data link to provide data used to inhibit the automatically starting the fuel-powered AC generator. (See, e.g., *id.* at page 5, lines 1-3.)

Dependent claim 9 incorporates the language of independent claim 1 and is directed toward a wheel rotation detector to provide data used to inhibit the automatically starting the fuel-powered AC generator. (See, e.g., *id.* at page 5, lines 4-15.)

Dependent claim 10 incorporates the language of independent claim 1 and is directed toward a wheel rotation detector to provide data used to inhibit the automatically starting the fuel-powered AC generator. (See, e.g., *id.* at page 5, lines 4-15.)

Dependent claim 11 incorporates the language of independent claim 1 and is directed toward a vehicle engine operation sensor to inhibit the automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 16-24.)

Dependent claim 12 incorporates the language of independent claim 1 and is directed toward an rpm sensor to inhibit the automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, line 20.)

Dependent claim 13 incorporates the language of independent claim 1 and is directed toward a vehicle engine ignition key position sensor to inhibit the automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, line 20.)

Independent method claim 20 relates to detecting a fault condition indicative of a risk of an exhaust hazard. (*See id.* at page 3, line 28 – page 4, line 12.) When the fault condition indicates that the risk of the exhaust hazard is present, an automatic AC generator starting actuator, of a fuel-powered electrical AC generator, is inhibited. (*See id.*) This effectively prevents the generator from automatically being started when the risk of the exhaust hazard is present. (*See Application at FIG. 2.*)

Dependent method claim 21 incorporates the language of independent claim 20 and is directed toward detecting a vehicle transmission position to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 4, lines 25-30.)

Dependent method claim 21 incorporates the language of independent claim 20 and is directed toward detecting a vehicle transmission position to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 4, lines 25-30.)

Dependent method claim 22 incorporates the language of independent claim 20 and dependent claim 21, and is directed toward using a data link for detecting a vehicle transmission position to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 4, lines 25-30.)

Dependent method claim 23 incorporates the language of independent claim 20 and is directed toward detecting a wheel rotation to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 4-15.)

Dependent method claim 24 incorporates the language of independent claim 20 and dependent claim 23 and is directed toward sensing a reluctance for detecting a wheel

rotation to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 4-15.)

Dependent method claim 25 incorporates the language of independent claim 20 and dependent claim 23 and is directed toward using a data link for detecting a wheel rotation to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 4-15.)

Dependent method claim 26 incorporates the language of independent claim 20 and is directed toward detecting a change in vehicular motion from moving to stopped to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 4-6.)

Dependent method claim 27 incorporates the language of independent claim 20 and is directed toward detecting a change from engine running to engine off to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 16-24.)

Dependent method claims 28-31 incorporate the language of independent claim 20 and are directed toward detecting a change in vehicular ignition state to inhibit automatically starting the fuel-powered AC generator. (*See, e.g., id.* at page 5, lines 25-30.)

Independent apparatus claim 35 relates to a recreational vehicle (commonly referred to as an “RV”) including a fuel-powered AC generator **104**. (*See Application at page 3, lines 1-5.*) An actuator circuit **106** automatically starts the fuel-powered generator **104** when a load circuit **118** of the RV needs AC electrical power from the AC generator. A sensor circuit detects a fault condition indicative of a risk of an exhaust hazard. A logic circuit **130** disables the actuator circuit **106** when the fault condition indicates that the risk of the exhaust hazard is present. This effectively prevents the generator **104** from automatically being started when the risk of the exhaust hazard is present. (*See Application at FIG. 2.*)

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- 1) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 1, 5, 7, 20 and 21 using Reuyl (U.S. Patent No. 4,182,960) in view of James et al. (U.S. Patent No. 5,333,703)?
- 2) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 2 and 4 using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) as applied to claim 1, and further in view of Ulinski et al. (U.S. 6,700,214)?
- 3) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 9, 13, 23, 26, 28 and 29 using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) as applied to claims 1 and 20, and further in view of Ito et al. (U.S. 5,276,624)?
- 4) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 8, 11, 12, 14, 15, 22, 25, 27, 30, 31, 32, 33 and 34 using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) and Ito et al. (U.S. 5,276,624) as applied to claims 1, 20, 23, and 28, and further in view of Riedel (U.S. 5,954,040)?
- 5) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claim 3 under 35 U.S.C. § 103(a) using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) as applied to claim 1, and further in view of Graber et al. (U.S. 6,534,958)?
- 6) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 10 and 24 using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) and Ito et al. (U.S. 5,276,624) as applied to claims 1 and 23 above, and further in view of Duke et al. (U.S. 5,432,413)?

7) Was a *prima facie* case of obviousness under 35 U.S.C. § 103(a) properly made with respect to claims 6, 16, 17, 18, 19 and 35 using Reuyl (U.S. 4,182,960) and James et al. (U.S. 5,333,703) as applied to claim 1 above, and further in view of Kawaguchi et al. (U.S. 4,961,403)?

7. ARGUMENT

A) The Applicable Law

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). “The *identical invention* must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added). In interpreting the claims it is widely recognized that a patentee is free to be his own lexicographer. *See, e.g., Autogiro Co. of America v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967). However, unless a special definition is clearly stated in the patent specification or prosecution history, claim terms are to be given their ordinary and customary meaning in the field of the invention. *See Vitronics*, 90 F.3d at 1582, 39 U.S.P.Q.2d at 1576.

The Examiner also has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.* The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the

reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992). However, while it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. 171, 174 (C.C.P.A. 1979)). However, the level of skill is not that of the person who is an innovator but rather that of the person who follows the conventional wisdom in the art. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 474, 227 U.S.P.Q. 293, 298 (Fed. Cir. 1985). The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which notes that the motivation must be supported by evidence in the record.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). References must be considered in their entirety, including parts that teach away from the claims. See MPEP § 2141.02. The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01.

B) The References

Reuyl (U.S. 4,182,960): describes a system for using an automobile for providing backup power to a conventional (stationary) home. A user interconnects the automobile to the home. An actuator automatically starts the car engine to re-supply batteries that are part of an electrical subsystem of the home. This home electrical subsystem includes a power conditioning circuit 38 that uses power from the batteries to supply electric loads in the home.

James (U.S. 5,333,703): includes a sensor that is used to disable a motor vehicle engine. In response to a high level of carbon monoxide (CO), the motor vehicle ignition system is disabled, if it is safe to do so (i.e., the motor vehicle is not moving, being driven, etc.). Although James apparently recognizes the CO hazard of an already-running motor vehicle engine, Appellant can find nothing in James that discloses, teaches, or suggests any recognition of a potential CO hazard of an engine that is not yet running, but which has auto-starting capability. Similarly, Appellant can find nothing in James that discloses, teaches, or suggests its application outside the context of a motor vehicle engine to a fuel-powered electrical generator.

Ulinski (U.S. 6,700,214) : describes a mobile power generation system that includes load sensors for indicating a need for power from a generator. (See Ulinski at column 7, line 64 – column 8, line 9; column 8, lines 8-11; column 8, line 65 – column 9, line 6.)

Ito et al. (U.S. 5,276,624): describes a turning control apparatus for a vehicle, using a wheel detector sensor for turning control. Appellant can find nothing in Ito et al. that discloses, teaches, or suggests using a wheel detector sensor for inhibiting automatic generator startup.

Riedel (U.S. 5,954,040): describes a method and arrangement for controlling an internal combustion engine. The Final Office Action admits that Riedel's sensor are for the purpose of controlling engine efficiency (instead of for inhibiting automatic generator startup). (See Final Office Action ¶ 5.)

Graber (U.S. 6,534,958): describes a system that supplies electrical power and compressed air with a throttle control, using a spark-ignited generator. (*See* Graber at FIG. 9.)

Duke (U.S. 5,432,413): describes a control system for an electrically propelled traction vehicle, using a reluctance sensor for determining engine speed (*See* Duke at column 7, lines 44-49.)

Kawaguchi et al. (U.S. 4,961,403): describes using an engine generator with a vehicle. (*See* Kawaguchi at Abstract). However, Appellant can find nothing in the cited portions of Kawaguchi et al. that disclose, teach, or suggest inhibiting an automatic generator startup.

C. Discussion of the Rejections

C.1 The § 103(a) Rejection of claims 1, 5, 7, 20 and 21 using Reuyl in view of James

Appellant respectfully submits that there is no *prima facie* case of obviousness of claims 1, 5, 7, 20 and 21 because these references do not include any disclosure, teaching, or suggestion of being combined in the manner used by the Office Action. The Office Action asserts:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a system as disclosed by Reuyl and to use the teachings of James et al. for the purpose of monitoring efficiently carbon monoxide levels to disable a device if there is a risk of exhaust hazard.

(Office Action ¶ 2.) Although James apparently recognizes the CO hazard of an already-running motor vehicle engine, Appellant can find nothing in James that discloses, teaches, or suggests any recognition of a potential hidden CO hazard of an engine that is not yet running, but which has auto-starting capability. Moreover, while Reuyl apparently deals with automatically starting an automotive engine, Reuyl apparently relies on a completely different approach to dealing with the resulting exhaust produced by the automotive engine—Reuyl expressly teaches prior venting of the automotive

engine exhaust to open air outside the residence. (*See* Reuyl at column 7, lines 49-50.) Therefore, Reuyl fails to disclose, teach, or suggest any need for the James device. Instead, Reuyl manifests an evident belief that the exhaust gases could be handled in a completely different way—by venting away the gases. By taking this approach, Reuyl completely ignores any risk of exhaust hazard. Instead, Reuyl focuses on other issues, such as “too much starting and stopping of the engine.” (*See id.* At column 6, line 55.) By contrast, James apparently only recognizes the CO hazard of an already-running motor vehicle system—nothing in James discloses, teaches, or suggests automatic engine starting, or any resulting latent CO hazard.

In sum, James deals with the problem of a CO hazard of an already-running motor vehicle. Reuyl deals with the problem of automatic starting an automotive engine that is already vented to carry away exhaust fumes. Thus, Reuyl and James are solving different problems—from each other, and from the problem being solved by the present patent application. Nothing in the combination of Reuyl and James exhibits any recognition of the problem of a hidden CO hazard of a generator with automatic starting capability. Nothing in Reuyl and James teaches the desirability of their combination, as required for carrying out the proper legal test for obviousness. *See In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002) (noting that the motivation to combine references must be supported by evidence in the record); *See also n re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01.

Appellant respectfully submits that the Examiner’s combination of James and Reuyl apparently impermissibly relies on the hindsight of the Appellant’s own disclosure, instead of on any disclosure, teaching, or suggestion in James and Reuyl themselves. Indeed, Appellant’s recognition of the problem of a hidden life-threatening hazard posed by an automatic generator starting system—rather than an engine that is already running—must be given weight in determining patentability. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985) (The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention).

Because Reuyl and James do not include any disclosure, teaching, or suggestion of being combined in the manner used by the Office Action, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to claims 1, 5, 7, 20 and 21. Accordingly, Appellant respectfully requests reversal of this rejection of these claims.

Also, concerning claim 5, Appellant cannot find any disclosure, teaching, or suggestion in Reuyl and/or James of automatically starting a fuel-powered AC generator when a load circuit—that includes an at least partially AC-powered electrical appliance of a vehicle—needs AC power from the AC generator. As discussed above, James fails to address automatically starting an AC generator, and Reuyl appears directed toward use in a conventional (i.e., stationary and non-vehicular) home. (See, e.g., Reuyl at col. 4, line 61, discussing “when the automobile is parked at the residence,” etc.). Accordingly, because this element of claim 5 is apparently not disclosed, taught, or suggested by Reuyl and/or James, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to claim 5. Accordingly, Appellant respectfully requests reversal of this rejection of this claim.

Also, concerning claims 7 and 21, Appellant cannot find any disclosure, teaching, or suggestion in Reuyl and/or James of a transmission position detector circuit that is used to inhibit the automatically starting the fuel-powered AC generator, as presently recited in claims 7 and 21. Instead, the transmission position detector circuit of James is used to detect whether the already-running engine is present in a potentially moving vehicle, in which case disabling of the already-running engine is inhibited to prevent the ignition system from locking the steering, etc., and causing a moving-vehicle accident. (See James at col. 11, lines 42-50 and col. 5, lines 24-31.) Accordingly, because this element of claim 7 is apparently not disclosed, taught, or suggested by Reuyl and/or James, Appellant respectfully submits that no *prima facie* case of obviousness exists with respect to claim 7. Accordingly, Appellant respectfully requests reversal of this rejection of this claim.

C.2 The § 103(a) Rejection of claims 2 and 4 using Reuyl in view of James and Ulinski

This rejection of claims 2 and 4 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claims 2 and 4 for the reasons discussed above under C.1.

Also, concerning claim 4, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, and/or Ulinski of inhibiting automatic starting of a diesel generator, as opposed to a spark-ignited engine. Although a diesel generator is not believed to produce the same degree of CO hazard that a spark-ignited generator produces, the present patent application explains that a diesel generator operating within a confined space still presents an exhaust hazard. (See Application at page 4, lines 10-12.) Nothing in the cited portions of Reuyl, James, and/or Ulinski recognizes such an exhaust hazard of a diesel engine. Accordingly, Appellant respectfully requests reversal of this rejection of claim 4.

C.3 The § 103(a) Rejection of claims 9, 13, 23, 26, 28 and 29 using Reuyl in view of James and Ito

This rejection of claims 9, 13, 23, 26, 28 and 29 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claims 9, 13, 23, 26, 28 and 29 for the reasons discussed above under C.1.

Also, concerning claims 9, 23, and 26, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, and/or Ito of using a wheel rotation sensor (or other technique of determining whether the vehicle is moving or stopped) to inhibit the automatically starting the fuel-powered AC generator, as similarly presently recited or incorporated in these claims. Instead, the wheel rotation sensor of Ito is apparently used to provide turning control. (See *Ito* at Abstract). Accordingly, because this element of claims 9, 23, and 26 is apparently not disclosed, taught, or suggested by Reuyl, James, and/or Ito, Appellant respectfully requests reversal of this rejection of claims 9, 23, and 26.

Also, concerning claims 13, 28, and 29, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, and/or Ito of using an ignition key position sensor to inhibit automatically starting the fuel-powered AC generator, as similarly presently recited or incorporated in these claims. Indeed, the Final Office Action fails to explain how Ito is being applied to claims 13, 28, and 29 to overcome the shortcomings of Reuyl and James. Accordingly, because this element of claims 13, 28 and 29 is apparently not disclosed, taught, or suggested by Reuyl, James, and/or Ito, Appellant respectfully requests reversal of this rejection of claims 13, 28, and 29.

C.4 The § 103(a) Rejection of claims 8, 11, 12, 14, 15, 22, 25, 27, 30, 31, 32, 33 and 34 using Reuyl in view of James, Ito, and Riedel

This rejection of claims 8, 11, 12, 14, 15, 22, 25, 27, 30, 31, 32, 33 and 34 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claims 8, 11, 12, 14, 15, 22, 25, 27, 30, 31, 32, 33 and 34 for the reasons discussed above under C.1.

Also, concerning claim 8, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of using a data link to provide data used to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 8 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 8.

Also, concerning claim 11, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of using an engine operation sensor to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 11 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 11.

Also, concerning claim 12, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of using an rpm sensor to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 12 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 12.

Also, concerning claim 22, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of using a data link to detect vehicle transmission position to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 22 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 22.

Also, concerning claim 25, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of using a data link to detect wheel rotation to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 25 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 25.

Also, concerning claim 27, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of detecting a change in vehicular engine operation from engine running to engine off to inhibit the automatically starting the fuel-powered AC generator. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claim 27 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claim 27.

Also, concerning claims 30-31, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Riedel of detecting a change in vehicular ignition state to inhibit the automatically starting the fuel-powered AC generator, as incorporated in these claims by their dependence on claim 28. Instead, as the Final Office Action admits, Riedel is apparently directed toward controlling engine efficiency. Accordingly, because this element of claims 30-31 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claims 30-31.

C.5 The § 103(a) Rejection of claim 3 using Reuyl in view of James and Graber

This rejection of claim 3 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claim 3 for the reasons discussed above under C.1, since Appellant respectfully submits that Graber fails to cure the deficiencies in Reuyl and James.

C.6 The § 103(a) Rejection of claims 10 and 24 using Reuyl in view of James, Ito, and Duke

This rejection of claims 10 and 24 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claims 10 and 24 for the reasons discussed above under C.1, since Appellant respectfully submits that Ito and Duke fail to cure the deficiencies in Reuyl and James.

Also, concerning claims 10 and 24, Appellant cannot find any disclosure, teaching, or suggestion in the cited portions of Reuyl, James, Ito, and/or Duke of using a reluctance sensor to inhibit the automatically starting the fuel-powered AC generator, as similarly recited in claims 10 and 24. Instead, as the Final Office Action admits, Duke is apparently directed toward conserving fuel efficiently. Accordingly, because this element of claims 10 and 24 is apparently not disclosed, taught or suggested by the cited portions of Reuyl, James, Ito, and/or Riedel, Appellant respectfully requests reversal of this rejection of claims 10 and 24.

C.7 The § 103(a) Rejection of claims 6, 16, 17, 18, 19 and 35 using Reuyl in view of James , and Kawaguchi

This rejection of claims 6, 16, 17, 18, 19 and 35 incorporates the reasoning of the § 103 rejection using Reuyl and James discussed above under C.1. Accordingly, Appellant respectfully requests reversal of this rejection of claims 6, 16, 17, 18, 19 and 35 for the reasons discussed above under C.1, since Appellant respectfully submits that Kawaguchi fails to cure the above-noted deficiencies in the rejection using Reuyl and James by merely coupling an engine-generator to a recreational vehicle.

8. SUMMARY

In sum, Appellant respectfully submits that no *prima facie* case of obviousness under 35 U.S.C. §103 has been established by the Office. Among other things, none of the cited references disclose, teach, or suggest any recognition of the latent potential CO hazard of an engine that is not yet running, but which has auto-starting capability, as discussed above.

Therefore, it is respectfully requested that the rejections of claims 1-35 be reconsidered and withdrawn, and the amendments entered. The Appellant respectfully submits that all of the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Appellant's attorney, Suneel Arora at (612) 373-6951, to facilitate prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

DAN G. PRIEM

By his Representatives,

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Date March 31, 2006 By S. Arora

Suneel Arora
Reg. No. 42,267

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 31 day of March, 2006.

John D. Gunter-Watfall
Name

John D. Gunter-Watfall
Signature

CLAIMS APPENDIX

1. (Rejected) A system comprising:

an actuator circuit, to automatically start a fuel-powered AC generator when a load circuit needs AC electrical power from the AC generator;

a sensor circuit, to detect a fault condition indicative of a risk of an exhaust hazard; and

a logic circuit, coupled to the sensor and actuator circuits, to disable the actuator circuit when the fault condition indicates that the risk of the exhaust hazard is present.

2. (Rejected) The system of claim 1, in which the actuator circuit includes an automatic generator starting circuit, in which the automatic generator starting circuit includes a load power sensor to indicate when the load circuit needs AC electrical power from the AC generator.

3. (Rejected) The system of claim 1, in which the AC generator includes a spark-ignited generator.

4. (Rejected) The system of claim 1, in which the AC generator includes a diesel generator.

5. (Rejected) The system of claim 1, in which the load circuit includes an at least partially AC-powered electrical appliance of a vehicle.

6. (Rejected) The system of claim 5, in which the load circuit includes an at least partially AC-powered electrical appliance of a recreational vehicle.

7. (Rejected) The system of claim 1, in which the sensor circuit includes a vehicle transmission position detector circuit to inhibit the automatically starting the fuel-powered AC generator.

8. (Rejected) The system of claim 1, in which the sensor circuit includes a data link to provide data used to inhibit the automatically starting the fuel-powered AC generator.

9. (Rejected) The system of claim 1, in which the sensor circuit includes a wheel rotation detector circuit to inhibit the automatically starting the fuel-powered AC generator.

10. (Rejected) The system of claim 1, in which the sensor circuit includes a reluctance sensor to inhibit the automatically starting the fuel-powered AC generator.

11. (Rejected) The system of claim 1, in which the sensor circuit includes a vehicle engine operation sensor to inhibit the automatically starting the fuel-powered AC generator.

12. (Rejected) The system of claim 1, in which the sensor circuit includes a vehicle engine rpm sensor to inhibit the automatically starting the fuel-powered AC generator.

13. (Rejected) The system of claim 1, in which the sensor circuit includes a vehicle engine ignition key position sensor to inhibit the automatically starting the fuel-powered AC generator.

14. (Rejected) The system of claim 1, in which the sensor circuit includes an exhaust sensor to inhibit the automatically starting the fuel-powered AC generator.

15. (Rejected) The system of claim 1, in which the sensor circuit includes a carbon monoxide sensor to inhibit the automatically starting the fuel-powered AC generator.

16. (Rejected) The system of claim 1, further including the AC generator.
17. (Rejected) The system of claim 16, further including a vehicle coupled to the AC generator.
18. (Rejected) The system of claim 16, further including a recreational vehicle coupled to the AC generator.
19. (Rejected) The system of claim 16, further including an electrical appliance coupled to the AC generator.
20. (Rejected) A method comprising:
detecting a fault condition indicative of a risk of an exhaust hazard; and
disabling an automatic AC generator starting actuator of a fuel-powered electrical AC generator when the fault condition indicates that the risk of the exhaust hazard is present.
21. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting a vehicle transmission position to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.
22. (Rejected) The method of claim 21, in which the detecting the vehicle transmission position includes receiving data over a data link.
23. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting a wheel rotation to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.

24. (Rejected) The method of claim 23, in which the detecting the wheel rotation includes sensing a reluctance to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.

25. (Rejected) The method of claim 23, in which the detecting the wheel rotation includes receiving data over a data link.

26. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting a change in vehicular motion from moving to stopped to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.

27. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting a change in vehicular engine operation from engine running to engine off to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.

28. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting a change in vehicular ignition state to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.

29. (Rejected) The method of claim 28, in which the detecting the change in the vehicular ignition state includes detecting a change from ignition on to ignition off.

30. (Rejected) The method of claim 28, in which the detecting the change in the vehicular ignition state includes monitoring a voltage to at least one vehicular engine component.

31. (Rejected) The method of claim 28, in which the detecting the change in the vehicular ignition state includes receiving data over a data link.
32. (Rejected) The method of claim 20, in which the detecting the fault condition includes detecting at least one component of exhaust to inhibit automatically starting the fuel-powered AC generator when the fault condition indicates that the risk of an exhaust hazard is present.
33. (Rejected) The method of claim 32, in which the detecting the at least one component of exhaust includes detecting carbon monoxide.
34. (Rejected) The method of claim 33, further comprising comparing the detected carbon monoxide to a predetermined threshold value.
35. (Rejected) A system comprising:
 - a recreational vehicle, including a fuel-powered AC generator;
 - an actuator circuit, to automatically start the fuel-powered AC generator when a load circuit of the recreational vehicle needs AC electrical power from the AC generator;
 - a sensor circuit, to detect a fault condition indicative of a risk of an exhaust hazard; and
 - a logic circuit, coupled to the sensor and actuator circuits, to disable the actuator circuit when the fault condition indicates that the risk of the exhaust hazard is present.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.